Review Article

Available online at: http://www.ijmtst.com/vol6issue01.html

International Journal for Modern Trends in Science and Technology

ISSN: 2455-3778 :: Volume: 06, Issue No: 01, January 2020

A Comparative Philosophical Study on Modern and Traditional Technologies

Firooz Khosravi Vand[1] | Sayedeh Nafiseh Jazayeri Pardanjani[2]

[1]Department of Art and Architecture, Islamic Azad University of Shahrekord, Shahrekord, Iran
[2]Department of Architecture, Payame Noor University of Tehran, Tehran, Iran.

To Cite this Article
Firooz Khosravi Vand and Sayedeh Nafiseh Jazayeri Pardanjani, "A Comparative Philosophical Study on Modern and Traditional Technologies", *International Journal for Modern Trends in Science and Technology*, Vol. 06, Issue 01, January 2020, pp.-21-26.

Article Info
Received on 16-December-2019, Revised on 27-December-2019, Accepted on 04-January-2020, Published on 04-January-2020.

ABSTRACT

By a review on the history of science, philosophy and art from the ancient times to the modern world, human beings always preserved their connection with intellectus and metaphysics before modern history (tradition period)and they looked at the existence as the nature of the creature of God. The human of tradition periodthrough the connection tointellectus as well as the help of reasonuses the technology that is in line with the laws of nature and in the service of human. This connection gradually fadeduntil this connection, due to many pressures that the church brought to the people, reached its lowest extent or even disappeared in the middle ages (in West) or even sooner. Human of modern history, only by the help of reason, began to develop and build in the universe.Therefore, the thought of executive technology is influenced by the philosophy of modernism and is formed based on the reason and Rationalism. The present research will examine and analyze in order to consider thecomparative and philosophical activities of modern and traditional technologies by focusing on philosophical and infrastructure issues.The analytical-comparative method and library tools are used in the present study.

KEYWORDS: *philosophy, technology, tradition, modern*

I. INTRODUCTION

The author believe in respect and great dignity for the philosophy. Since, the world has been changed by those who were philosophers.Comparative philosophical studies, less as a systematic and organized process, have been considered in the field of architecture and executive technology.Perhaps, because it is still in the early stages of its birth and advent. This study tend to see if today's industry and technology is able to response to our current architectural needs or not. What is the position of human in this technology? Does this technology serve human being? Or vice versa?Can we return to the previous position of architecture by the help of this technology?

2. Genealogy of keywords

Philosophy:

AllamehDehkhodābelieves that the philosophy is essentially a Greek word, which is derived from the combination of two components of "philo" meaning "love" or "lover" and "sophos" meaning "wisdom". In general, philosophy means the knowledge of the truths of the beings as much as human be able.(Dehkhoda Dictionary)

Philosophy is the attempt of every human for the fundamental and comprehensive understanding of

the world by his perception and based on objective reality, which has three features: comprehensive understanding of the world, comprehending based on worldperception and citation to the reality. (Yasrebi, 2011, P: 34)

Ya'qūb ibn 'Isḥāq al-Kindīdescribed the philosophy as knowledge of the truth of creatures; or that the human soul reaches such a perfection to find, by reasoning not imitation and doubt, the reality of the creatures as it isas much as human's ability. (Ibid) Reza DavariArdakani considers the philosophy as the product of the calculator's intellect, not the ordinaryintellect. (Davari, 2006, P: 40)

Technology:

AllamehDehkhodā believes thattechnology means the creator of knowledge and using the tools of techniques and skills.Technology (or Tekneh) is a Greek word that is a method formed according to the taste and attitude and has a close relation to art. (Mahdavipour, 2012)

Modern:

The word "modern" based on the writing of AllamehDehkhoda is fresh, new, newly spread, fashionable and up to date.

Modern is derived the Latin word of modernus from the adverb of modo meaning recently and newly. The Romans used the term modernilate in the fifth century, which means new values and is in contrary with Antiqui meaning old accepted beliefs.The word "modern"was used in the French language in the middle of the 15th century with the present and current meaning. (Benevolo)

Tradition: Doctor Mohammad RezaOlya,quoted from the late Dr. Shirazi, described the tradition as old values that reached to their perfection during the time. Traditionistsdefine three meanings for tradition, which are durability and continuity,acceptable way and way procedure. (Mardani)

The meaning of the word "tradition" from the traditionalists' perspective:

The word "tradition" is used here in atranscendental meaning and is limited to the set of rules or concepts, which arethe philosophical, conceptual, and visual system. Because the tradition essentially lacks the shape that means has no form and no color. It is shapeless and super individual. Therefore, tradition can not be defined in human language, except in the language of code and symbol; and in this definition, a perfect tradition requires four things:1. Source of inspiration, 2. Divine blessing, 3. A way to research: actualizing by inspiration, 4. Visualization of tradition: not only in opinions and beliefs, but in all aspects of human existence. (Radpoor, 2007)

Tradition is called "sophiaperennis" in West, Sanatana Dharma among Hindus, AlHikmah al-Khalidiah among Arabs and immortal wisdom in Persian language. Revival of the school of immortal wisdomwas carried out byFrench philosopher and mystic named René Guénonin contemporary times.

3. Overview of the modern movement and the impact on the technology and art of the building (in the West)

During the Renaissance, architecture and other artswere based on universal and eternal laws.In the 18th century, the philosophy ofenlightenment doubted in all traditional institutionsand did not accept any principle before passing through the intellect. This was more than anything else affected by theCartesian worldview. In this time, the classical era emptied from eternal aspirations and universal ruleand found a realistic situation.At the time of Industrial Revolution, fundamental changes occurred in the field of thought and the connection to the intellectusand the higher levels of the world, in other words metaphysics, was disrupted, and the reason (human intellect) was used as the only way to improve human life and his prosperity.One of the aspects of these changes was the population increase that led to the progress of medical science.Another aspect of these changes was classification of science and knowledge, which created various specializations.The increase of industrial productions and the mechanization of production methods were other aspects of these changes. At the same time, developments were taken place in favor of the class interests in France and England.(Benevolo, 1923)

In 1764, the founder of the history of art,Johann Joachim Winckelmann, wrote the book ofthe History of Art in Antiquity.He studied the ancient art worksby objective relation not bythe supernatural concepts.In this way, he established the Neoclassicism movement.The same thing happened with other art, literary and architectural schools, and movements including Neo-Gothic, Neo-Arab, Neo-Byzantine and so on were created.The English authors call these movements as historicism.Historicism brought up the results including adapting traditional styles to the new needs and allowing the artist to choose the patterns without affecting them. (Ibid)

However, perhaps the most important and instant result of historicism was the division of

architectural duties into various fields. Before Industrial Revolution,the art of building was closely linked to the art of manufacturing machines.But after that, mechanical constructions became specialized. However, the art of building is still used for the activities carried out by traditional ways. The art of building has changed in three stages: The evolution and development of building techniques, the increase of unique quantities of road construction and the total change of the meaning of building and installations constructing in the capitalist economy. (Ibid)

During the Industrial Revolution, constructing techniques have changed in five stages: 1. scientific educational advancements, 2. evolution of inherited and old building systems, 3. new materials, 4. technical developments in public buildings, 5. Neoclassicism. (Ibid)

4. Classification of intellects

A) Intellectus, reason - Wisdom: This intellect is the forth degree of the universe degrees, which is the same degree of divine feature of"Lahut". Wisdom means knowing the truth of objects. In modern history, communication to this type of intellect has been disrupted. Wisdom is the knowledge that God gives human beings.As the Prophet (pbuh) says: "Lord, show me things as it is".

B) Reason is human's intellect, by which human can reach to the facts and sciences of material world "Nasut". Modern discourse deals only with this type of intellect and its results are Rationalism, Empiricism and Materialism.

The modern movement is formed by the impact of these changes in thought and the attention to this kind of intellect, and its results are Pluralism,Absoluteness, Unilateralism and Anthropocentrismgoverning this period.The human of tradition period creates and invents his artifacts by the help of both intellects.Similarly, it can be said that the technologies of modern and tradition periods are influenced by the same worldview that governs these periods.

5. Comparative philosophical comparison of modern and traditional technologies

5.1. Worldview and epistemicdevice

The activity of traditional artists was based on the wisdom (intellectus) and reason. Therefore, executive technologies of tradition period was also based on this.The activity of modern artists has beenlimited toreason and Cartesian thoughts that is influenced by attention to the reason. It is because this period separated from wisdom.Traditional artists believe in the universe degrees and discovering of these degrees one by one until the artist achieve the fact, and this is how the code is one of the main pillars of traditional art (traditional artist does not create the code but understands it). Modern artists do not believe in the universe degrees (except of Nasut degree). As Alberti states: "the artist concerns to what he sees, not what is hidden behind ambiguous imaginations."That is why ambiguity is one of the main pillars of modern art.

5.2. Compatibility with Nature:

In the tradition period, the activity of artist is based on the laws governing nature (holy order, Homa order, soil order, water order, plant order and so on). (Ahari, 2012)

In modern history, human being considers himself as the ruler of nature, so the transcendental view to the nature was eliminated.Therefore, artists in every place of the world, without considering the nature laws of that place,create artworks, and the laws governing every place will be eliminated; in other words the amazement of the nature will disappear. Example: (the international style in architecture)

5.3. Human position:

During the industrial revolution, the nature of technology was changed by the phenomenon of machine. Machines work instead of humans.While in tradition period, traditional technology is a technology that is created by human's hands, senses and other parts of his body and as the body, serves to the soul. (Nasr, 2001)

In tradition period, technology was implemented through the hands of the artist. The hand that is connected to another world.Doctor HadiNadimi, in the article of the nature and destiny of arts and handicrafts, suggests that traditional technology is the arts and crafts that are called handicrafts, and he believes that it is better to call it craft. If we want to find an equivalent definition for industrial technology, then the word industry might be appropriate. In other words, traditional technology is crafts and industrial technology is industry.Doctor HadiNadimi for comparing these two words states: "what is actually in the crafts not in the industry and the missing of us and our current world is a divine presence". (Nadimi, 2008)

Doctor HadiNadimi says: "todays' industryis a pre-designed version that has no relation to human and is repeated without the presence of him and this is due to a thought that was spreaded especially after the Renaissance in Europe, saying that God created the world and then He did not care what will happen after that". (Ibid)

In modern technology, human art and skill are transferred to the machine, in other words, all the skill lies in the machine. In traditional technology, skill appears by the human who believes in universe degrees, and he uses this skill according to the wisdom to create an ineffaceable work. (Nasr, 2001)

5.4. Human creativity in art and architecture:

Traditional technology is formed based on human thought and creativity.(Ibid) In modern technology, human creativity is harmed due to the disruption of relation between human beings and the methods of making objects. (Ibid)

5.5. Compatibility with the human soul as an eternal being:

Modern technology itself creates a particularculture oftechnology that is in contrast with the human soul as an eternal being,and is incompatible with the structure of any traditional community based on spiritual relation between human and his artifacts.In traditional technology, for the reason that the artist of tradition period looks at the human as a being with a soul originated from God and sees him as the greatest creature of God, so he creates a work that reflects this immortality. (Ibid)

5.6. Goodness for human:

Traditional technology is a transcendental thing,because the tradition is transcendentaland this technology is in line with the divine tradition and brings goodness to the human and nature.

In modern technology, only the material aspect is considered, and it is in line with modern Anthropocentrism, but sometimes causes the most harms to the human. (For example, in the thought of modern urbanism, it causes the most harms to the human, because it does not serve humans but serves the machines).

5.7. Executive thinking:

For the reason that modern technologyis influenced by modern capitalist thinking, executive thinking is in the form ofcontracting. However, since the traditional epistemic device is based on divine tradition (Haram and Halal), executive thinking will not be in the form of contracting.

5.8. Useful life:

In modern technology that is influenced by the thinking of modern capitalist, the useful life of manufactured products is very limited (For example,the life of todays' buildings is not more than 50 years). In traditional technology, due to worldview and epistemic device governing to this thinking, wasting of time and extra costs are avoided. For example, the useful life of old buildings constructed in the tradition period is much longer than new ones.

5.9. Repairability

In modern technology, the materials used are not repairable, so that we see many used building materials around our cities that mess the order of the nature. While in traditional technology, most materials are repairable and can be used several times.For example, adobeis a repairable material.

Example:During the repair of portal of Dowlat Abad Garden of Yazd, the adobes and muds used before, which are called Konova, were re-used in agriculture and gardens due to their fertile soil and instead of them, the soil of those gardens were used to make newadobes and bricks.

5.10. Proportionality between material and mortar

In traditional technology, there is a proportionality between used material and mortar in terms of hardness and quality. For example, the stone pillars ofImam Mosque of Isfahan are placed on each other by means of lead mortar. While, there is not the proportionality in modern technology. For example,rock is a hard material with cement mortar, which is also hard, so using both of them leads to the destruction of the building because their forces are not flexible in the interaction.

6. Three comparative examples

6.1. Comparison of the building of dovecote and factory of chemical fertilizer production

Building of dovecote as a factory of producing natural fertilizer has the least pollution to the natural environment.In these buildings, by spending the least energy and work force, natural fertilizer was produced that is useful for agriculture and does not harm the nature. In these buildings, the useof work force was at the minimum of it.

In chemical fertilizer factories, in addition toa lot of pollution and poison entering the nature, using a lot of energy and work force is required too. Moreover, produced fertilizer from these factories will do more harms to the environment and humans compared to the dovecotes.

6.2. Comparison ofnaturalrefrigeratorand modern refrigerators

Although modern refrigeratorsare much more accessible and healthier and can store a wide variety of foods for a long time in them, but Freon gas produced by them can be very harmful to the environment and human. (Ozone destruction)

Traditional refrigerators do not have any environmental pollution, but in terms of health, abundancy and availability, they have many

disadvantages compared to the modern refrigerators.

6.3. Comparison of water supply technology and traditional resources (Qanats, water storages and so on) and current water supply technology (features and disadvantages)

6.3.1. Water supply technology and traditional resources

Intraditional water supply technology, the water transfer was intra-area.That is, for using and transferring water to a place, the water resources of the place was used. For example, to bring water to the city of Yazd, water was transported through digging Qanats in ShirKuh Mountains and other water resources within the Yazd area.

There are several advantages for this type of water transfer and utilization:

1. By exploiting the water resources of each area, no environmental damage will be done to the other areas.
2. This type of water transfer rather than inter-area transfer (it will be discussed in modern technology) requires less energy and cost.
3. In this technology, the number of water resources of the city (water storages) was to the extent that first, they represented the size of city districts; second, each water storage had its own performance radius; third, the growth and development of the city depended on the number and amount of waterstorages; fourth, the waterstorages acted as passive defense in crisis conditions.
4. In this type of technology,water transfer system was gravitational, which did not need continuous energy and cost, so that when water transfer operations were carried out, there was no need to spend energy on water transfer.

Therefore, in this technology we see that the growth and development of cities depend on the water resources available within the area and its groundwater. This allowed cities to grow according to a specific pattern, and even water resources and groundwater in the city (such as rivers and Madi within the city) were the factor of determining the form and structure of the city. In this case, the city of Isfahan and the school of urban planning in Isfahan is the most obvious example of this type of city formation. This issue, as water order, plays an important role in urbanism of Isfahan and it is very compatible with the formation of Isfahan based on the school philosophy, that is, creating a city, which is the image of paradise (garden - city). (Ahari, 2012) In this technology,the human of tradition used water energy (which is clean and renewable energy) very much. For example, using water energy in watermills, and the watermillsof Shooshtar are the examples of it.

This type of water transfer technology has its disadvantages as well:

1. The water resources in this technology all depend on rain, snow and the environmental conditions of that area. Accordingly, people of the area would be harmed if the rain and snow were less. It would harm people mostly in agriculture and animal husbandry. However, Iranians from long time ago had a solution for this problem and they used the technology of several Qanats, which were related to each other and so on.
2. Cities and places where floods and inundations were most likely to cause damage to people.
3. In this type of technology, humans were less able to use the rivers. (Although there are examples of this period of time that shows people could use the rivers. Such as dam of Tabas that is the first double curvature arch dam of the world, or even earth dams that reduce the river floods and even helped people to use more of the rivers).
4. In this technology, water resources are drained over a certain period (in winter and February); if the resource is damaged or contaminated in any way, first, it is difficult to drain it; second, people who are using this resource will suffer of water shortage until the resource regain the water.
5. In this technology, if one of thegroundwater becomes contaminated in any way, since all groundwater are related to each other so all the water will be contaminated and cause contagious diseases for people of the area.

6.3.2. Modern technology of water transfer

In this technology, water transfer is carried out either by the area (transferring the water of Karun into the same area) or by inter-area (water transfer from Karun (in Chaharmahal and Bakhtiari Province) to Isfahan and Ardakan in Yazd province).

Advantages:

1.In this technology, if rain and snow are less in an area for a year, so the water can be transferred from other area.
2. Water resources can be drained if their water is contaminated, or they can be regained water if their water is finished.
3. Contagious diseases do not spread throughgroundwater.
4. Modern humans benefit from water energy due to modern technology (dam,Types of hydropower plant).

5. By modern technology,currently, humans are less harmed by natural disasters including floodand inundation of the rivers.

Disadvantages:

1. Since the water transfer is inter-area, it consumes more energy and cost.
2. The number of water resources within a city, how much large, is very low, and the performance radius of each resource is very large, and cannot prevent the unrestricted growth of the cities.
3. In this technology, the water transfer of a system is under pressure, which requires spending high energy and cost.
4. Today's cities do not developaccording to natural patterns and models depended on water resources and groundwater. (Ahari, 2012)
5. In this technology, current cities or even currentbuildings are not formed according to water order. (Ibid)
6. Today's urbanism is not formed based on the thinking of a city with the image of paradise (garden city).(Ibid)

Final word:

With a little more thinking on the elements of urbanism, traditional architecture and humans of tradition period, there are countless examples of comparative philosophical process that can be mentioned but it is not possible to bring them all in this article.We are, however, theheirs of a tradition according to the divine tradition that serve to human and the nature and creatures of God. It requires a great deal of effort, with the help of God, to restore it, so the current and next generations can use its benefits.

7. Conclusion:

Since tradition is a transcendent matter, in relation tointellectus the traditional technology is also a transcendent matter, and is according to the divine tradition. Since in modern thought, humanhas lost his relation to the intellectus, and only creates his surrounding environment based on the reason of Humanism, so the modern technology by the phenomenon of machine took human creativity with the excuse of serving to human and for his more welfare, and marginalized the human being. It caused that the creation of God seems unreasonable and aimless. In this thought, human does not see himself in accordance with the laws of nature and always try to govern the nature.

Since the values of Iranian traditional architecture are great and transcendental values because they are attributed to tradition, we can return to the previous great position, only by reviving these traditions.As Doctor HadiNadimi says: "This can be achieved only by addressing the meaning and wisdom that is present in life".

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